



CONTRIBUTIONS OF DEMING, JURAN AND CROSBY

Course : Total Quality Management

19ME514
Unit -1 Introduction
III Year /V Semester
Mechanical Engineering

TOPIC OF THE DAY





THE QUALITY GURUS

Individuals who have been identified as making a significant contribution to improving the quality of goods and services.

- Walter A. Shewhart- PDSA & TQC
- **W. Edwards Deming- PDCA & 14 Points**
- **Joseph M. Juran- Juran's Trilogy**
- Armand Feigenbaum- Customer
- **Philip Crosby- Quality**
- Genichi Taguchi- Loss function
- Kaoru Ishikawa- Cause and effect diagram & Quality circle

CONTRIBUTIONS OF W. EDWARD DEMING





DEMING'S 14 POINTS FOR MANAGEMENT

1. Create constant purpose for the improvement of the product and service.
2. Adopt the new philosophy.
3. Cease dependence on inspection to achieve quality.
4. End the practice of awarding business on the basis of price tag alone. Instead, minimize total cost by working with a single supplier.
5. Improve constantly and forever every process for planning, production, and service.
6. Institute training and retraining.



DEMING'S 14 POINTS FOR MANAGEMENT

7. Adopt and institute leadership.
8. Drive out fear.
9. Breakdown barriers between staff areas.
10. Eliminate slogans, exhortations, and targets for the workforce.
11. Eliminate numerical quotas for the workforce and numerical goals for management.
12. Remove barriers that rob people of workmanship.
13. Institute a vigorous program of education and self-improvement for everyone.
14. Put everybody in the company to work to accomplish the transformation.



1. Create a constant purpose toward improvement.

- Plan for quality in the long term.
- Resist reacting with short-term solutions.
- Don't just do the same things better - find better things to do.
- Predict and prepare for future challenges, and always have the goal of getting better.

2. Adopt the new philosophy.

- Embrace quality throughout the organization.
- Put your customers' needs first, rather than react to competitive pressure - and design products and services to meet those needs.
- Be prepared for a major change in the way business is done. It's about leading, not simply managing.
- Create your quality vision, and implement it.

3. Stop depending on inspections.

- Inspections are costly and unreliable - and they don't improve quality, they merely find a lack of quality.
- Build quality into the process from start to finish.
- Don't just find what you did wrong - eliminate the "wrongs" altogether.
- Use statistical control methods - not physical inspections alone - to prove that the process is working.



4. Use a single supplier for any one item.

- Quality relies on consistency - the less variation you have in the input, the less variation you'll have in the output.
- Look at suppliers as your partners in quality. Encourage them to spend time improving their own quality - they shouldn't compete for your business based on price alone.
- Analyze the total cost to you, not just the initial cost of the product.
- Use quality statistics to ensure that suppliers meet your quality standards.

5. Improve constantly and forever.

- Continuously improve your systems and processes. Deming promoted the Plan-Do-Check-Act approach to process analysis and improvement.
- Emphasize training and education so everyone can do their jobs better.
- Use kaizen as a model to reduce waste and to improve productivity, effectiveness, and safety.

6. Use training on the job.

- Train for consistency to help reduce variation.
- Build a foundation of common knowledge.
- Allow workers to understand their roles in the "big picture."
- Encourage staff to learn from one another, and provide a culture and environment for effective teamwork.



7. Implement leadership.

- Expect your supervisors and managers to understand their workers and the processes they use.
- Don't simply supervise - provide support and resources so that each staff member can do his or her best. Be a coach instead of a policeman.
- Figure out what each person actually needs to do his or her best.
- Emphasize the importance of participative management and transformational leadership.
- Find ways to reach full potential, and don't just focus on meeting targets and quotas.

8. Eliminate fear.

- Allow people to perform at their best by ensuring that they're not afraid to express ideas or concerns.
- Let everyone know that the goal is to achieve high quality by doing more things right - and that you're not interested in blaming people when mistakes happen.
- Make workers feel valued, and encourage them to look for better ways to do things.
- Ensure that your leaders are approachable and that they work with teams to act in the company's best interests.
- Use open and honest communication to remove fear from the organization



9. Break down barriers between departments.

1. Build the "internal customer" concept - recognize that each department or function serves other departments that use their output.
2. Build a shared vision.
3. Use cross-functional teamwork to build understanding and reduce adversarial relationships.
4. Focus on collaboration and consensus instead of compromise.

10. Get rid of unclear slogans.

1. Let people know exactly what you want - don't make them guess. "Excellence in service" is short and memorable, but what does it mean? How is it achieved? The message is clearer in a slogan like "You can do better if you try."
2. Don't let words and nice-sounding phrases replace effective leadership. Outline your expectations, and then praise people face-to-face for doing good work.



11. Eliminate management by objectives.

1. Look at how the process is carried out, not just numerical targets. Deming said that production targets encourage high output and low quality.
2. Provide support and resources so that production levels and quality are high and achievable.
3. Measure the process rather than the people behind the process.

12. Remove barriers to pride of workmanship

1. Allow everyone to take pride in their work without being rated or compare
2. 2. Treat workers the same, and don't make them compete with other workers for monetary or other rewards. Over time, the quality system will naturally raise the level of everyone's work to an equally high level.



13. Implement education and self-improvement.

1. Improve the current skills of workers.
2. Encourage people to learn new skills to prepare for future changes and challenges.
3. Build skills to make your workforce more adaptable to change, and better able to find and achieve improvements.

14. Make "transformation" everyone's job.

1. Improve your overall organization by having each person take a step toward quality.
2. Analyze each small step, and understand how it fits into the larger picture.
3. Use effective change management principles to introduce the new philosophy and ideas in Deming's 14 points.



THE JURAN TRILOGY

Juran views quality as fitness for use.

Juran Trilogy is designed to reduce the cost of quality over time.

1. QUALITY PLANNING
2. QUALITY CONTROL
3. QUALITY IMPROVEMENT



1. QUALITY PLANNING

- Determine internal & external customers.
- Their needs are discovered.
- Develop product / service features.
- Develop the processes able to produce the product / service features.
- Transfer plans to operations.



2. QUALITY CONTROL

Control is used by operating forces to help meet the product, process and service requirements.

1. Determine items to be controlled.
2. Set goals for the controls.
3. Measure actual performance.
4. Compare actual performance to goals.
5. Act on the difference.



3. QUALITY IMPROVEMENT

Aims to attain levels of performance that are higher than current levels.

- Establishment of quality council.
- Identify the improvement projects.
- Establish the project teams with a project leader.
- Provide the team with the resources.



JURAN'S 10 STEPS TO QUALITY IMPROVEMENT

1. Build awareness of the need and opportunity for improvement.
2. Set goals for improvement.
3. Organize to reach the goals (establish a quality council, identify problems, select projects, appoint teams, designate facilitators).
4. Provide training.
5. Carry out projects to solve problems.
6. Report progress.



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7. Give recognition.
8. Communicate results.
9. Keep score.
10. Maintain momentum by making annual improvement part of the regular systems and processes of the company.



CONTRIBUTIONS OF CROSBY

1. Quality is defined as conformance to requirements.
2. The system for causing Quality is prevention.
3. The performance standard must be zero defects.
4. The measurement of Quality is the Price of Nonconformance



CROSBY'S 14 STEPS TO QUALITY IMPROVEMENT

1. Make it clear that management is committed to quality.
2. Form quality improvement teams with representatives from each department.
3. Determine where current and potential quality problems lie.
4. Evaluate the cost of quality and explain its use as a management tool.
5. Raise the quality awareness and personal concern of all employees.
6. Take actions to correct problems identified through previous steps.
7. Establish a committee for the zero-defects program.
8. Train supervisors to actively carry out their part of the quality improvement program.



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9. Hold a “zero-defects day” to let all employees realize that there has been a change.
10. Encourage individuals to establish improvement goals for themselves and their groups.
11. Encourage employees to communicate to management the obstacles they face in attaining their improvement goals.
12. Recognize and appreciate those who participate.
13. Establish quality councils to communicate on a regular basis.
14. Do it all over again to emphasize that the quality improvement program never ends.



COMPARISON

	Deming	Juran	Crosby
Definition of quality	Continuous improvement	Fitness for use	Conformance to requirements
Emphasis	Tools/system	Measurement	Motivation (behaviour)
Types of tools	Statistical process control	Analytical, cost-of-quality	Minimal use
Use of goals and targets	Not used	Significant emphasis	Posted goals for workers



REFERENCES

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2. Dr S. Kumar, "Total Quality Management", Laxmi Publications Ltd., New Delhi 2006.

